Municipal and County Engineering
INDEX

VOLUME LXVIII — JANUARY—JUNE, 1925

Capital Letter E refers to Editorials.

Advances in Road Building, Biggest Road Show Depicts, by O. A. Steller 1
Aesthetic Treatment of Drainage Spoil Banks, by Milo C. Taylor 138
Asphalt Pavement, Defects in, and Their Causes, by R. M. Heine 70
Asphalt, Resurfacing Fifth Ave., New York and Broad St., Newark, With, by J. W. Howard. 259
A. S. T. M. Committee Reports, Recent, Digest of Some 205
Automobile, City Planning and the, by Alvan Macauley 217

Better Distribution of People and Industries, by John Nolen 245
Bidder, Responsible, Specifications for A, by Geo. H. Jennings 90
Bidding, Taking Some of the Guess Out of, by S. J. Clausen 163
Bituminous Treatment of Gravel Roads, by A. D. Carpenter 229
Blasting, Recent Developments in, by J. R. St. Clair 172
Bond Projects, Public Improvement, Presenting to the Voters, by Wm. E. Stanley 148
Bottle, Highway Transportation, The Neck of the, by C. C. Williams 93
Boulevards, Du Page County (Ill.) 175
Brick, Paving Brick Association to Study Possibilities of 2½-in. 67
Brick, Paving, Now Only Four Standard Sizes of 203
Building a System of National Roads Through Federal Aid, by Thomas H. MacDonald 48

California, Two Years of Highway Progress in, Reviewed 7
Caterpillar Tractor Co., Organization of 277
Causeway, Proposed, Between Rockaway Beach and Sandy Hook, N. Y., by William J. Wilgus 220
Cement, Atlas Lumnite, Some Economic Possibilities with, by J. W. Hussey 82
Cement Concrete Pavements, Developments in Constructing and Maintaining, by Leon V. Belknap 102
Chicago, Washington Park, Unusual Incinerator For 242
City Planning and the Automobile, by Alvan Macauley 217
City Planning as a Permanent Solution of the Traffic Problem, by Arthur S. Tuttle 246
City Terminal Problem, Solving the, by Will H. Lyford 305
Committee Reports, Recent A. S. T. M., Digest of Some 205
Concrete, High Points of New Joint Committee Report on, by Norman M. Stineman 223
Concrete-Lined Reservoirs, Care of, by R. E. McDonnell 233
Concrete Pavement Construction, Important Features of, by Col. H. C. Boyden 139
Concrete Pavements, Relation of Form Setting to Riding Qualities of, by C. N. Conner 111
Concrete, Quantities of Materials for 328
Concrete Road Construction in Missouri 315
Concrete Street Pavement Practice, Recent Developments in, by L. S. Trainor 68
Connections and Storm Water Inlets, by John Wilson 227
Constructing and Maintaining Cement Concrete Pavements, Developments in, by Leon V. Belknap 102
Construction, Concrete Pavement, Important Features of, by Col. H. C. Boyden 139
Construction Details, Some—Smooth Bituminous Pavements, by W. L. Hempelman 45
Construction Efficiency, Factors Affecting, and Influence of Specification Interpretation on Costs, by T. J. Wasser 154
Construction, Elevated Tank, by George T. Horton 262
Containers, Unit, New York Central's Use of Trucks and, by G. C. Woodruff 256
Contractors and Engineers, Cooperation Between, by O. W. Crowley 129
Contract for Municipal Improvements, General, Proposed Form of 11
Cook County (Ill.) Traffic Survey, Some Results of the, by George A. Quinlan 125
Cooperation Between Engineers and Contractors, by O. W. Crowley 129
Costs, Factors Affecting Construction Efficiency and Influence of Specification Interpretation on, by T. J. Wasser 154
Costs, Maintenance, New Globe Holder Cuts ... 278
Council-Manager Plan at Dubuque, Iowa, Experience with the, by O. E. Carr 84
County (Ill.) Boulevards, Du Page 175
Court Decision Protects Water Supply Against Mine Drainage, by Almon L. Fales 276
Creosote Block Pavements, Maintenance of, by A. D. Carpenter 299

Day Labor on Government Work, Setbacks for 270
Defects in Asphalt Pavements and Their Causes, by R. M. Heine 70
Design and Operation, Water Purification Plant, Points to Watch in, by Stanley T. Barker and Harry F. Ferguson 98
Design, The Rational, of Reinforced Concrete Tanks, by Arthur S. Milinowski 288
Democracy, Industrial, in a Pipe Foundry, by Paul A. Ivy 325
Developments in Blasting, Recent, by J. R. St. Clair 172
Development of Laboratory Supervision of Paving Work, The, by Hugh W. Skidmore 19
Digest of Some Recent A. S. T. M. Committee Reports 205
Distribution, Better, of People and Industries, by John Nolen 245
Drainage Methods, Farm 19
Drainage Spoil Banks, Aesthetic Treatment of, by Milo C. Taylor 138
Dubuque, Iowa Experience with the Council-Manager Plan at, by O. E. Carr 84
Du Page County (Ill.) Boulevards 175
Dust Elimination on Gravel Roads, by B. C. Tiney 32
Duties of Field Engineers on Highway Construction, by B. H. Piepmeier 65

Economics as Applied to Engineering Projects, by C. A. Morse 108-122
Economic Possibilities with Atlas Lumnite Cement, Some, by J. W. Hussey 82
Electric House Heating an Early Possibility ... 54
Electric Power Systems, Interconnection of, by F. H. Patten 190
Elevated Tank Construction, by George T. Horton 262
Engineers and Contractors, Cooperation Between, by O. W. Crowley 129
Engineering Projects, Economics as Applied to, by C. A. Morse 108-122
English Highway Practice, Impressions of, by A. B. Fletcher 117
Equipment, Highway Construction and Maintenance, Evolution of, by O. L. Kipp 55
Evolution of Highway Construction and Maintenance Equipment, by O. L. Kipp 95
Expenditures, Municipal, and the Motor Vehicle 187

Farm Drainage Methods..... 19
Federal Aid, Building a System of National Roads Through, by Thomas H. MacDonald.. 48
Field Engineers, Duties of on Highway Construction, by B. H. Piepmeier..... 65
Fifth Ave., New York and Broad St., Newark, Resurfacing with Asphalt, by J. W. Howard. 259
Finance Report, Highway, of National Tax Association 211-235
Fire Reserve Problem, Water Storage a Solution of, by Charles W. Parsons..... 181
Floor, Renewable, Steel Truck Body with..... 53
Ford Unit, New, For Light Trucking..... 325
Form Setting, Relation of Riding Qualities of Concrete Pavements to, by C. N. Conner.... 111
Foundry, Pipe, Industrial Democracy in a, by Paul A. Ivy..... 325
Fourth Annual Meeting of the Highway Research Board, by J. L. Harrison..... 3

Globe Holder, New, Cuts Maintenance Costs... 278
Government Work, Day Labor on, Setbacks for 270
Gravel Roads, Bituminous Treatment of, by A. D. Carpenter..... 229
Gravel Road Construction in Missouri..... 176
Gravel Roads, Dust Elimination on, by B. C. Tiney 32
Gravel Road Maintenance, by J. T. Donaghey. 75
Guess Out of Bidding, Taking Some of the, by S. J. Clausen..... 163

Highway Construction and Maintenance Equipment, Evolution of, by O. L. Kipp..... 55
Highway Construction, Duties of Field Engineers on, by B. H. Piepmeier..... 65
Highway Construction, Lincoln, Progress on the 10
Highway Department, Illinois, Work of the Testing Bureau of the, by H. F. Clemmer... 135
Highway Finance Report of National Tax Association 211-235
Highway Maintenance, Highway Research Board Report on 37
Highway Practice, English, Impressions of, by A. B. Fletcher..... 117
Highway Progress in California Reviewed, Two Years of 7
Highway, Rail and Water Transportation as Viewed by Rail Engineers, by Robert H. Ford 160-178
Highway Research Board, The Fourth Annual Meeting of the, by J. L. Harrison..... 3
Highways, The Use of, by Motor Trucks, by J. B. Wait..... 87
Highway Transportation, and the Public, by the Hon. W. M. Jardine..... 284
Highway Transportation Bottle, The Neck of the, by C. C. Williams..... 93
Highway Transport Survey, The Pennsylvania, by William H. Connell..... 195
Highways, Who Pays for the? by John E. Walker 301
House Heating, Electric, An Early Possibility. 54

Illinois, Experience with State Aid Roads in, by A. B. Hurd..... 130
Illinois Highway Department, Work of the Testing Bureau of the, by H. F. Clemmer... 135
Impressions of English Highway Practice, by A. B. Fletcher..... 117
Incinerator, Unusual, For Washington Park, Chicago 212
Indianapolis, New Street Lighting System at . 204
Industries and People, Better Distribution of, by John Nolen..... 245
Industrial Democracy in a Pipe Foundry, by inlets, Storm Water, and Connections, by Paul A. Ivy..... 325
John Wilson 227
Interconnection of Electric Power Systems, by F. H. Patten..... 190
Investigations of Smoothness of Pavements, by H. F. Clemmer and D. D. McGuire..... 35

Johnson Creek, Wis., Novel Sewage Disposal Plant at, by W. G. Kirchoffer..... 188
Joint Committee Report on Concrete, New, High Points of, by Norman M. Stineman.... 223

Kansas City Water Plant, Continuous Sludge Removal at 315

Laboratory Supervision of Paving Work, The Development of, by Hugh W. Skidmore.... 19
Land, Controlling the Subdivision of into Building Lots, by Robert Whitten..... 319
Light Trucking, New Ford Unit for..... 325
Lighting System, Street, New, at Indianapolis. 204
Lincoln Highway Construction, Progress on the 10
Lined Reservoirs, Concrete, Care of, by R. E. McDonnell 233
Lots, Building, Controlling the Subdivision of Land into, by Robert Whitten..... 319
Lumnite, Atlas Cement, Some Economic Possibilities with, by J. W. Hussey..... 82

Maintenance Costs, New Globe Holder Cuts... 278
Maintenance, Gravel Road, by J. T. Donaghey. 75
Maintenance, Highway Research Board Report on 37
Maintenance of Creosote Block Pavements, by A. D. Carpenter..... 299
Manhole, Frames and Covers, Standardization of 211
Materials for Concrete, Quantities of..... 328
Material, Road, Highway Research Report on Character and Use of..... 186
Methods, Farm Drainage..... 19
Method, Middle Cost, of Determining Value, by Willis D. P. Warren..... 271
Middle Cost Method of Determining Value, by Willis D. P. Warren..... 271
Mine Drainage, Court Decision Protects Water Supply Against, by Almon L. Fales..... 276
Missouri, Concrete Road Construction in..... 315
Missouri, Gravel Road Construction in..... 176
Motor Trucks, Railroad Use of..... 21
Motor Trucks, The Use of Highways by, by J. B. Wait..... 87
Motor Vehicle and Municipal Expenditures, The 187
Municipal Expenditures and the Motor Vehicle 187
Municipal Improvements, Proposed Form of General Contract for..... 11

Neck of the Highway Transportation Bottle, The, by C. C. Williams..... 93
New York Central's Use of Trucks and Unit Containers, by G. C. Woodruff..... 256
N. Y., Rockaway Beach and Sandy Hook, Proposed Causeway Between, by William J. Wilgus 220
Novel Sewage Disposal Plant at Johnson Creek, Wis., by W. G. Kirchoffer..... 188

Objectives in Sewage Treatment, by Jack J. Hinman, Jr. 167
Old Road Surfaces, Utilizing the Salvage Value of, by A. H. Hinkle..... 22
Paint, Traffic, Test of..... 328
Pavements, Asphalt, Defects in and Their Causes, by R. M. Heine..... 70
Pavements, Cement Concrete, Developments in Constructing and Maintaining, by Leon V. Belknap 102
Pavements, Concrete, Relation of Form Setting to Riding Qualities of, by C. N. Conner..... 111
Pavement Construction, Concrete, Important Features of, by Col. H. C. Boyden..... 139
Pavements, Creosote Block, Maintenance of, by A. D. Carpenter..... 299
Pavements, Investigations of Smoothness of, by H. F. Clemmer and D. D. McGuire..... 35
Pavement, Practice, Concrete Street, Recent Developments in, by L. S. Trainor..... 68
Pavements, Smooth Bituminous—Some Construction Details, by W. L. Hempelman..... 45
Paving Brick Association to Study Possibilities of 2½-in. Brick..... 67
Paving Brick, Now Only Four Standard Sizes of 203
Paving Work, The Development of Laboratory Supervision of, by Hugh W. Skidmore..... 19
Pays for the Highways, Who? by John E. Walker 301
Pennsylvania Highway Transport Survey, The, by William H. Connell..... 195
Pipes, Small Service, Experiences With, by J. E. Gibson..... 279
Pipe Tunnel and Reservoir at Calumet City, Ill., Reinforced Concrete, by Ernest A. Clark 145
Planning, City and Regional, The Business Value of, by Bancroft Gherardi..... 322
Planning, City, and the Automobile, by Alvan Macauley 217
Pollution, Stream, Methods and Policies of Preventing, by H. V. Pederson..... 132
Popular Priced Trailers, To Make 10,000..... 269
Possibilities of 2½-in. Brick, Paving Brick Association to Study..... 67
Power Systems, Electric, Interconnection of, by F. H. Patten..... 190

Pressures, Desirable, Modern Views on Service Reservoirs and, by A. C. Hutson..... 251
Preventing Stream Pollution, Methods and Policies of, by H. V. Pederson..... 132
Problem, City Terminal, Solving the, by Will H. Lyford 305
Problem, Rail-Truck, Two Views of the..... 116
Progress on the Lincoln Highway Construction 10
Proposed Form of General Contract for Municipal Improvements 11
Public and Highway Transportation, The, by the Hon. W. M. Jardine..... 284
Public Improvement Bond Projects, Presenting to the Voters, by Wm. E. Stanley..... 148
Purification Fundamentals, Water, Review of, by J. H. Marcellus..... 243
Purification Plant Design and Operation, Water, Points to Watch in, by Stanley T. Barker and Harry F. Ferguson..... 98

Quantities of Materials for Concrete..... 328

Rail Engineers, Rail, Water and Highway Transportation as Viewed by, by Robert H. Ford 160-178
Railroad Use of Motor Trucks..... 21
Rail-Truck Problem, Two Views of the..... 116
Regional and City Planning, The Business Value of, by Bancroft Gherardi..... 322
Reinforced Concrete Reservoir and Pipe Tunnel at Calumet City, Ill., by Ernest A. Clark..... 145
Reinforced Concrete Tanks, The National Design of, by Arthur S. Milinowski..... 288
Renewable Floor, Steel Truck Body With..... 53
Report, Highway Research, on Character and Use of Road Material..... 186
Report on Concrete, New Joint Committee, High Points of, by Norman M. Stineman... 223
Report on Highway Maintenance, Highway Research 37
Research Board, Highway, The Fourth Annual Meeting of the, by J. L. Harrison..... 3
Reservoir and Pipe Tunnel, Reinforced Concrete, at Calumet City, Ill., by Ernest A. Clark 145
Reservoirs, Concrete-Lined, Care of, by R. E. McDonnell 233
Reservoirs, Service, and Desirable Pressures, Modern Views on, by A. C. Hutson..... 251
Responsible Bidder, Specifications for a, by Geo. H. Jennings..... 90
Resurfacing Fifth Ave., New York, and Broad St., Newark, with Asphalt, by J. W. Howard. 259
Review of Water Purification Fundamentals, by J. H. Marcellus..... 243
Riding Qualities of Concrete Pavements, Relation of Form Setting to, by C. N. Conner.... 111
Road Construction, Gravel, in Missouri..... 176
Road Construction in Missouri, Concrete..... 315
Roads, Gravel, Bituminous Treatment of, by A. D. Carpenter..... 229
Roads, Grave., Dust Elimination on, by B. C. Tiney 32
Roads in Illinois, State Aid, Experience with, by A. B. Hurd..... 130
Roads, Look Under Your..... 53
Road Maintenance, Gravel, by J. T. Donaghey 75
Road Material, Highway Research Report on Character and Use of..... 186
Roads, National, Building a System of, Through Federal Aid, by Thomas H. MacDonald 48
Road Show, Biggest, Depicts Advances in Road Building, by O. A. Steller..... 1
Road Surfaces, Old., Utilizing the Salvage Value of, by A. H. Hinkle..... 22
Rochelle, Illinois, Remodeling Sewage Treatment Plant at, by Robert Isham Randolph.. 123
Rockaway Beach and Sandy Hook, N. Y., Proposed Causeway Between, by William J. Wilgus 220

Salvage Value of Old Road Surfaces, Utilizing the, by A. H. Hinkle..... 22
Service Pipes, Small, Experiences With, by J. E. Gibson..... 279
Service Reservoirs and Desirable Pressures, Modern Views on, by A. C. Hutson..... 251
Setbacks for Day Labor on Government Work. 270
Sewage Treatment, Objectives in, by Jack J. Hinman, Jr. 167
Sewage Disposal Plant, Novel, at Johnson Creek, Wis., by W. G. Kirchoffer..... 188
Sewage Treatment Plant at Rochelle, Ill., Remodeling, by Robert Isham Randolph.... 123
Sizes of Paving Brick, Now Only Four Standard 203
Sludge Removal at Kansas City Water Plant, Continuous 315
Smooth Bituminous Pavements—Some Construction Details, by W. L. Hempelman..... 45
Smoothness of Pavements, Investigations of, by H. F. Clemmer and D. D. McGuire..... 35
Small Service Pipes, Experiences With, by J. E. Gibson..... 279
Solution of the Traffic Problem, Permanent, City Planning as a, by Arthur S. Tuttle..... 246
Specifications for a Responsible Bidder, by Geo. H. Jennings..... 90
Specification Interpretation, Influence of on Costs, and Factors Affecting Construction Efficiency, by T. J. Wasser..... 154
Spoil Banks, Drainage, Aesthetic Treatment of, by Milo C. Taylor..... 138
Springfield, Ill., Water Treatment and Softening Plant at, by C. S. Timanus..... 208
Standardization of Manhole Frames and Covers 211
State Aid Roads in Illinois, Experience with, by A. B. Hurd..... 130
Steel Truck Body with Renewable Floor..... 53
Storage, Water, A Solution of Fire Reserve Problem, by Charles W. Parsons..... 181
Storm Water Inlets and Connections, by John Wilson 227
Stream Pollution, Methods and Policies of Preventing, by H. V. Pederson..... 132
Street Lighting System, New, at Indianapolis. 204
Street Pavement Practice, Concrete, Recent Developments in, by L. S. Trainor..... 68
Subdivision of Land into Building Lots, Controlling the, by Robert Whitten..... 319
Survey, Cook County (Ill.) Traffic, Some Results of the, by George A. Quinlan..... 125
Survey, Highway Transport, The Pennsylvania, by William H. Connell..... 195

Tank Construction, Elevated, by George T. Horton 262
Tanks, Reinforced Concrete, The National Design of, by Arthur S. Milinowski..... 288
Tax Association, National, Highway Finance Report of 211-235
Terminal Problem, City, Solving the, by Will H. Lyford 305
Testing Bureau of the Illinois Highway Department, Work of the, by S. F. Clemmer... 135
Test of Traffic Paint..... 328
Tractor Co., Caterpillar, Organization of..... 277
Traffic Paint, Test of..... 328
Traffic Problem, City Planning as a Permanent Solution of the, by Arthur S. Tuttle..... 246-
Traffic Survey, Cook County (Ill.) Some Results of the, by George A. Quinlan..... 125
Trailers, Popular Priced, To Make 10,000..... 269
Transportation Bottle, Highway, The Neck of the, by C. C. Williams..... 93
Transportation, Highway, and the Public, by the Hon. W. M. Jardine..... 284
Transportation, Rail, Water and Highway, as Viewed by Rail Engineers, by Robert H. Ford 160-179
Treatment and Softening Plant, Water, at Springfield, Ill., by C. S. Timanus..... 208
Treatment Plant at Rochelle, Ill., Sewage, Remodeling, by Robert Isham Randolph..... 123
Treatment, Sewage, Objectives in, by Jack J. Hinman, Jr. 167
Trucking, Light, New Ford Unit for..... 325
Trucks and Unit Containers, New York Central's Use of, by G. C. Woodruff..... 256
Truck Body, Steel, With Renewable Floor..... 53
Trucks, Motor, Railroad Use of..... 21
Trucks, Motor, The Use of Highways by, by J. B. Wait 87
Truck-Rail Problem, Two Views of the..... 116
Two Years of Highway Progress in California Reviewed 7

Under Your Roads, Look..... 53

Value, Middle Cost Method of Determining, by Willis D. P. Warren..... 271
Value, The Business, of City and Regional Planning, by Bancroft Gherardi..... 322
Voters, Presenting Public Improvement Bond Projects to the, by Wm. E. Stanley..... 148

Washington Park, Chicago, Unusual Incinerator for 242
Water Plant, Kansas City, Continuous Sludge Removal at 315

Water Purification Fundamentals, Review of, by J. H. Marcellus..... 243
Water Purification Plant Design and Operation, Points to Watch in, by Stanley T. Barker and Harry F. Ferguson..... 98
Water Storage a Solution of Fire Reserve Problem, by Charles W. Parsons..... 181
Water Treatment and Softening Plant at Springfield, Ill., by C. S. Timanus..... 208
Water Supply, Court Decision Protects Against Mine Drainage, by Almon L. Fales..... 276